Fall 1985

East Village Housing: New York City

Alice J. Raucher

EAST VILLAGE HOUSING
NEW YORK CITY

Thesis Proposal
Alice J. Raucher
Fall 1985
Arc 505

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INTENT

The intent of this thesis is to develop low-rise, high density urban housing which will provide its occupants with the basic amenities of light, air and green space, while reconstructing and extending the fabric of New York City into an area of the East Village.

There exists in the East Village, as in other areas of Manhattan, an uneasy relationship between the low-scale rowhouses and tenements, mostly developed at the turn of the century, and the monolithic architecture of the superblock housing developments of the 1950's. These rowhouses and tenements, while successful at continuing the grid of the city at a scale that related well to the width of streets and sizes of parks, provided few amenities for its inhabitants. The tower in the park schemes, while providing light, space and air for its inhabitants, destroyed the area's sense of community when it failed to define the street edge and therefore fit into the existing structure of the city.

The proposed development would investigate new housing prototypes for a mixed-income community, that on a larger scale, would tie this ambiguous area of Manhattan back into the grid of the city.

GOAL

Innovative housing design should work within an existing urban as well as social context. Flexible dwelling units which allow various responses to the changing household structure of contemporary society will be considered. Since it is both impractical and unrealistic to assume that the existing developments will all be destroyed to facilitate redevelopment, one goal of this thesis will be to integrate these buildings into the new housing development.

HOUSING IN NEW YORK CITY

The area known as the East Village is primarily residential, its housing mostly in the form of four- to five-story masonry structures often referred to as a rowhouse. This was the dominant form of housing in 1811, the year the city's street grid was adopted. The rowhouse's rectangular plan developed as an economical response to the costliness of street frontage. Generally a 25 foot width was adhered to with varying depths of the building and relatively large backyards.

New York was rapidly expanding at the turn of the century due to the influx of immigrants, and four- to six-story walk-up tenements were built as an economical, quick way to house the growing population. These buildings were constructed of non-fireproof masonry on a 20 to 25 foot by 100 foot lot and were inadequate in their interior spaces, light and ventilation. Later improvements involved the introduction of light shafts. These new tenements were T-shaped and used 75% of their standard 25 foot by 100 foot lot, or were H-shaped six-story structures that used approximately 70% of a 50 foot by 100 foot lot.

During the 1920's and 1930's new laws itemizing housing requirements for multiple dwellings were developed along with new zoning codes for high-rise structures. These new codes, along with new developments in steel construction, the invention of the elevator, and rising real estate costs encouraged the construction of apartment buildings. These tall, fire-resistant structures separated themselves from the pre-existing context by the residual space around them, and were totally out of scale with their neighbors. Often they were monolithic buildings of supposed maximized density that were

unresponsive to key urban elements, such as street level shops or multiple entries.

These areas are now on the decline, along with the deterioration of the surrounding lower scaled neighborhood. A new solution must be found to integrate these two types of structures and provide badly needed housing.

PROGRAM SUMMARY

- Units of housing: 840
- Entry/lobby/elevator spaces that are visible from a public way
- 2 management offices
- A defined entry space for all dwelling units
- In addition to at-grade landscaped open space for common use, private terraces or gardens for each dwelling unit wherever possible
- Windows in kitchens, wherever possible
- Tenant storage space in addition to typical closet space
- Laundry rooms in convenient and safe locations
- One entrance in each building designed for access by the handicapped; 5% of a building's units designed for handicapped inhabitants
- Energy efficient design and passive solar considerations
- On site parking at a ratio of one third space/unit

Number of bedrooms	Net unit size (s.f.)	Number of baths	Number of units	S.F.
0	550-600	1	80	48,000
1	650-700	1	212	148,400
2	800-900	1.5 or 2	304	273,000
3	950-1100	2	188	206,800
4	1100-1300	2.5	56	72,800
TOTAL			840	749,000

Services

- Day Care: Single entry facility of flexible interior space to accomodate 70 children. Approximately 100 s.f. of interior space per child, or 7,000 gross square feet. 4,000 s.f. of secure outdoor play area.
- Community Space: Approximately 2,000 s.f. of flexible interior space containing kitchenette, toilets and storage.
- Commercial Space: Approximately 50,000 s.f. of commercial space at street level, accessible to the handicapped, with half as much area of basement storage easily accessible from the space above.
- Parking Spaces: Approximately 200.

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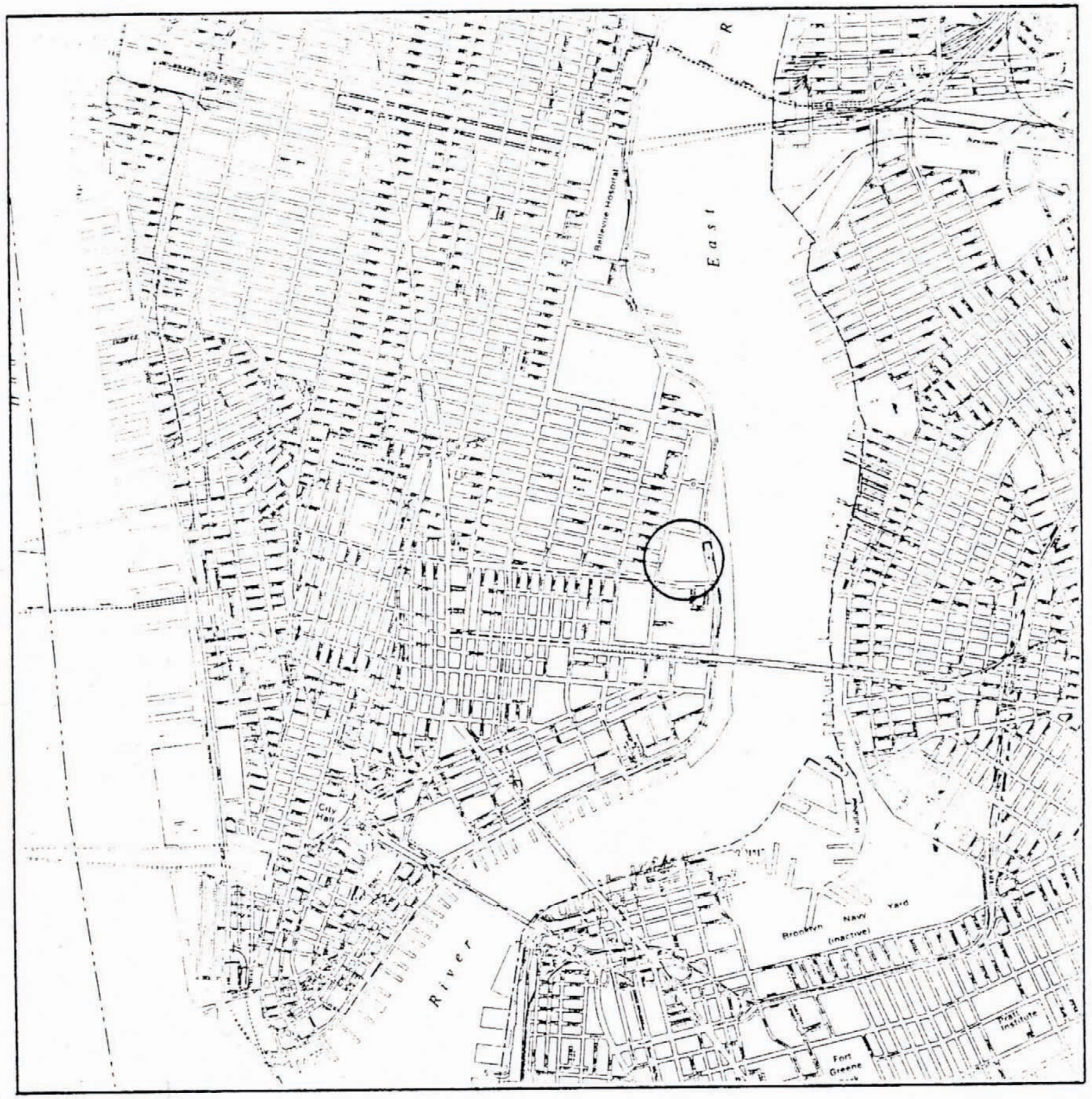
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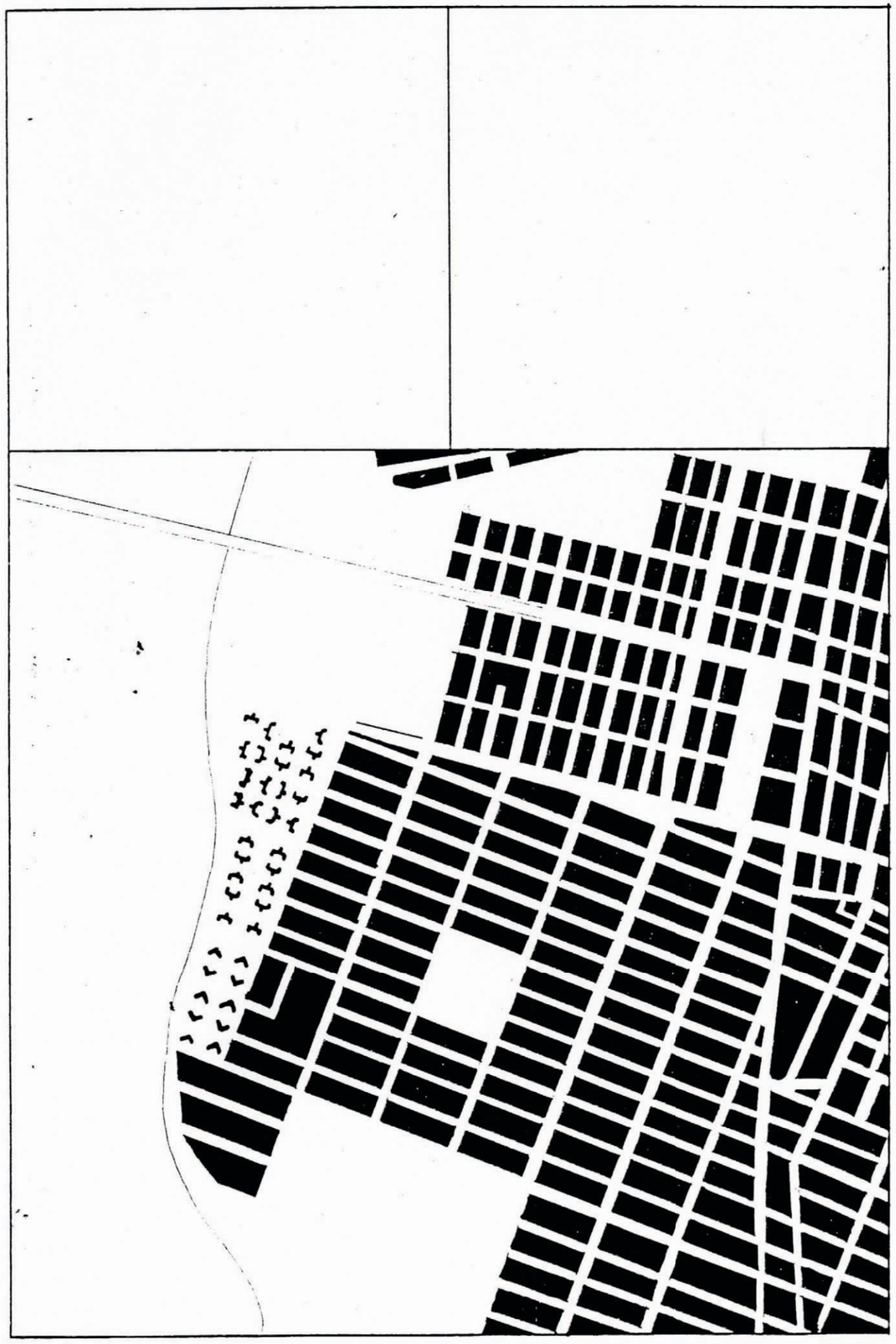
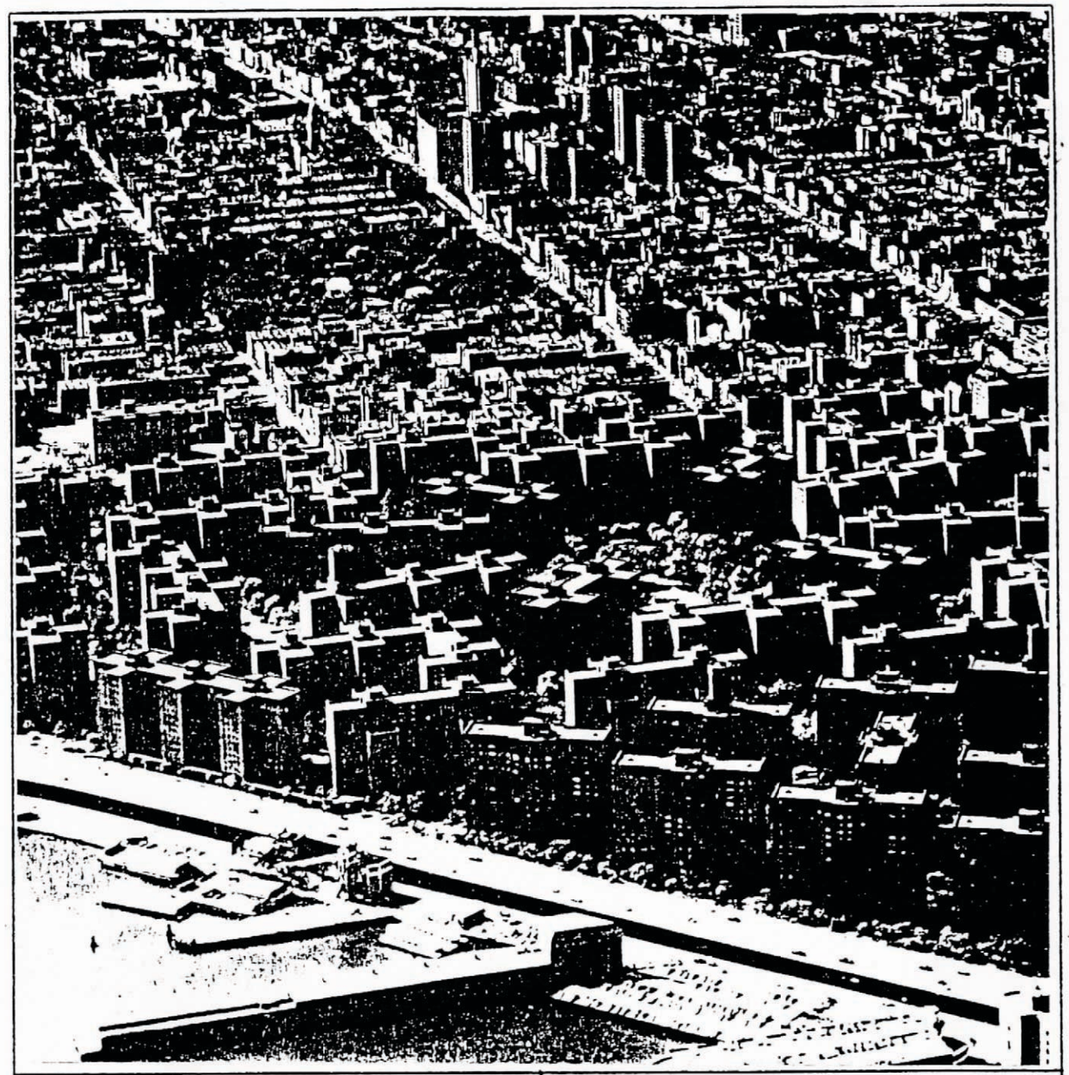
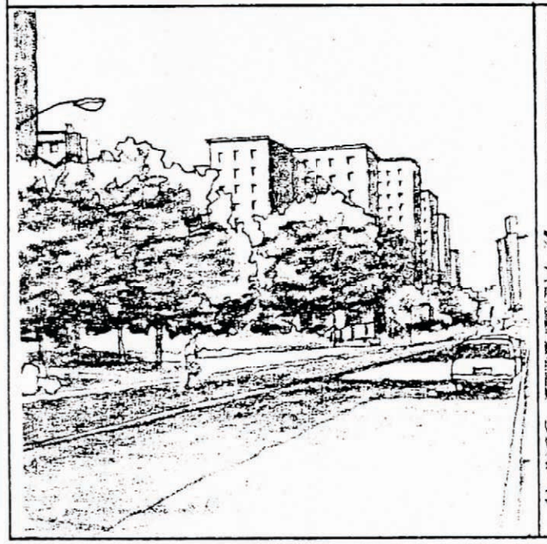
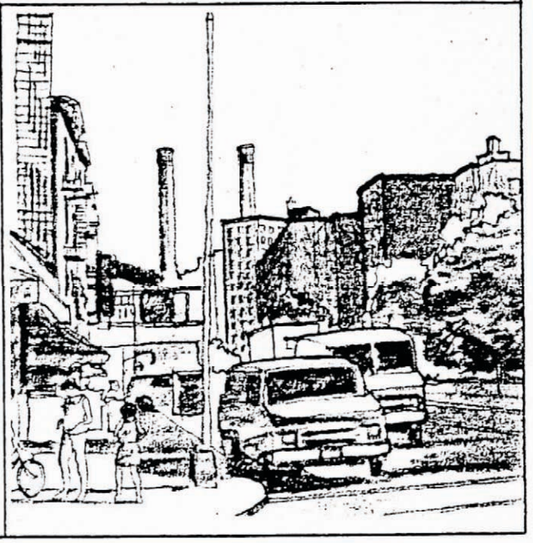
R
River
City Hall
Brooklyn Navy Yard
(inactive)
Fort Greene
Pratt Institute

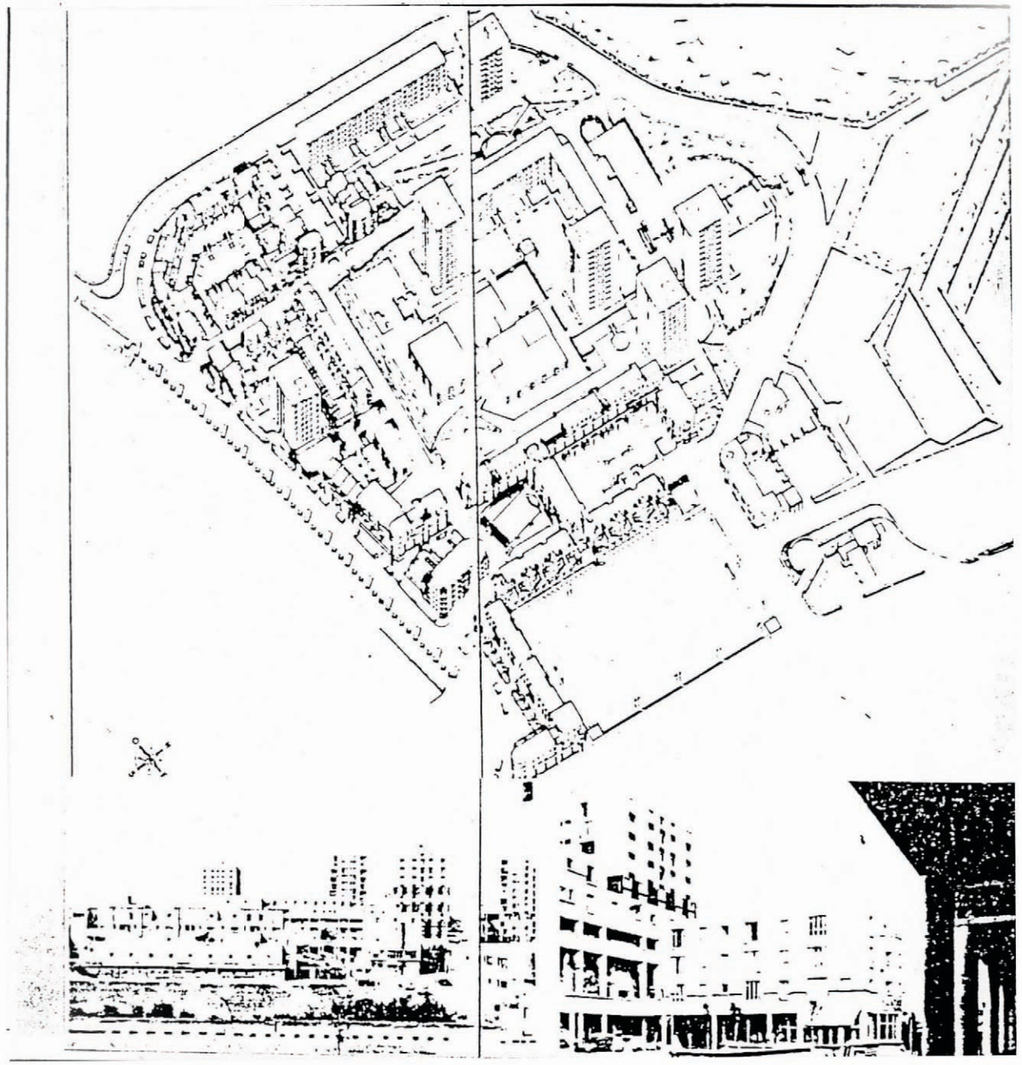

Bellevue
E a s
Washington Square Park
Tompkins Square Park
City Hall
Wallabout
Channel











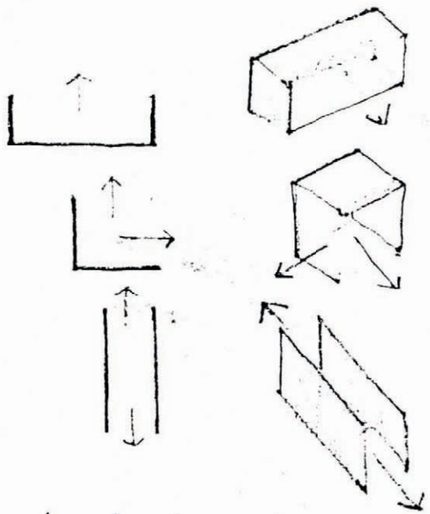
Building Types Study : Housing

I Unit Types

A. Single orientation unit

B. Double orientation unit, 90°

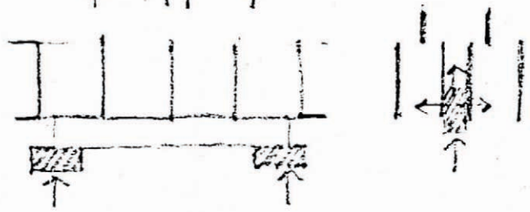
C. Double orientation unit, open-ended



II Building Types

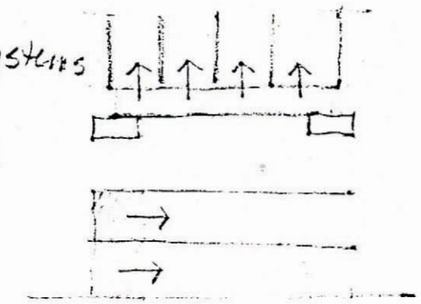
A. Private access

B. Multiple vertical access

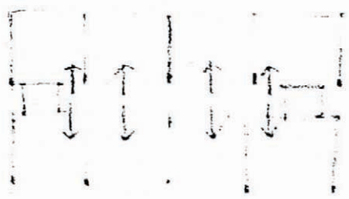


C. Corridor buildings

1. single loaded corridor systems
   - corridor every floor
   - corridor every second floor
   - corridor every third floor



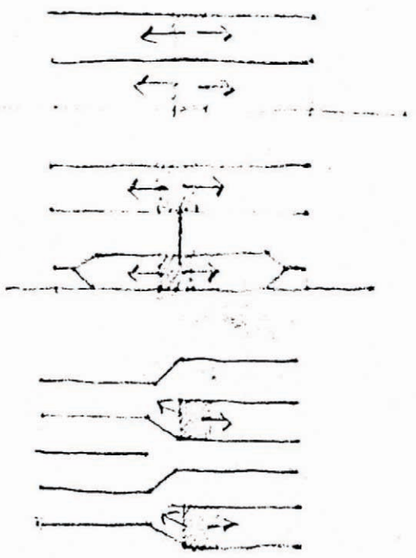
2. Double loaded corridor systems
   - corridor every floor



ont. 2

- corridor every second floor
- corridor every third floor

3. Double loaded Split-level Systems
- corridor every second floor, alternating position
- corridor every third floor
- corridor every third floor, alternating position



III Structural Types

A. Structural Frame – high rise

1. cast-in-place concrete

Why? - bldg ht. reduced
- contractors adept at it
- finishes are simplified – paint, plaster for ceilings
- fire rating automatic
- scattered columns can be used per plan – partition layout not controlled by beams extending beneath slab.

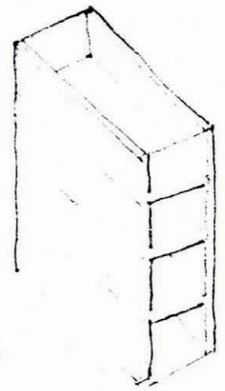
2. Structural Steel

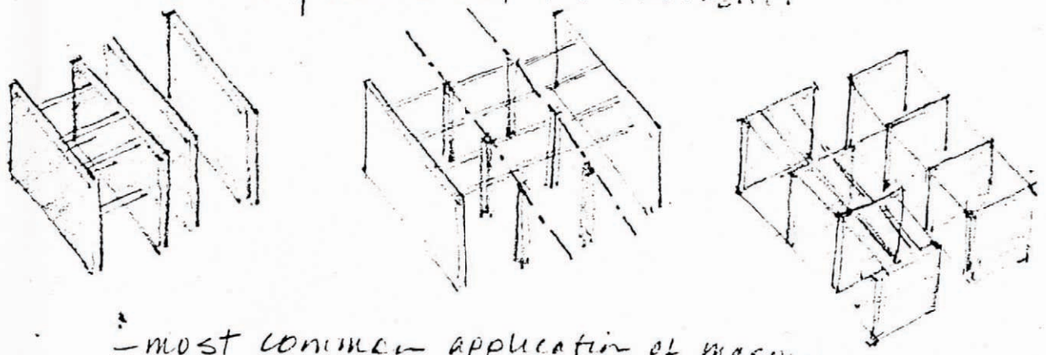
– compared with concrete, used infrequently
– changes in fireproof codes & new high strength steel may make steel construction more popular

ont.

B. Structure
mid-rise & low-rise

1. Masonry bearing
- reinforced – up to 18 stories (approx.)
- unreinforced (8") up to 12 stories
- acts jointly with floors as horizontal diaphragm
- bearing walls act as enclosure





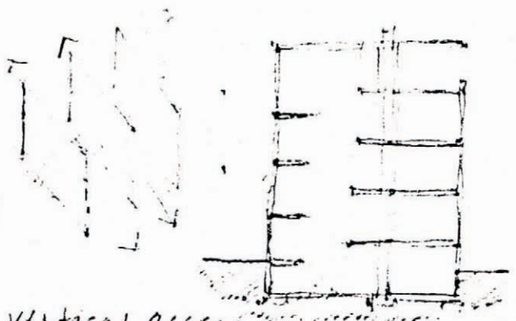
– most common application of masonry bearing walls is double loaded corridor – one or both corridor walls & exterior walls are bearing

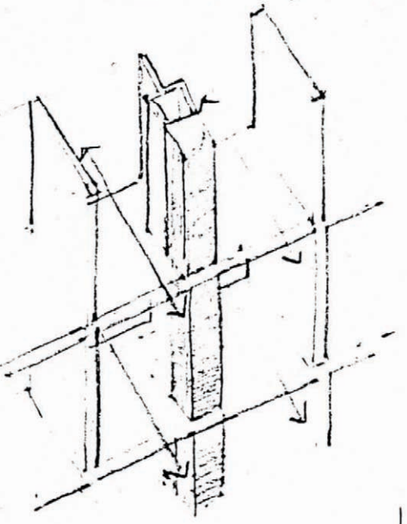
2. Wood frame (ordinary construction)
- restricted by code to walk-ups or elevator buildings of limited height (4 stories)
- bearing walls & partitions of floor & roof framing all or part of wood

cont.

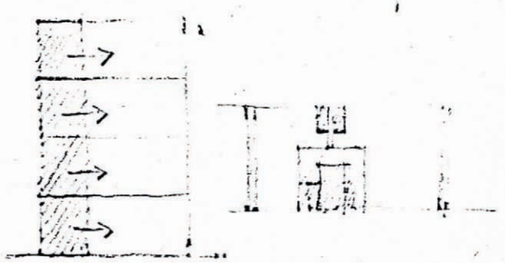
Building Types Study: Housing
- Rowhouses

Weissenhof Exhibition, Stuttgart 1927
Mies van der Rohe





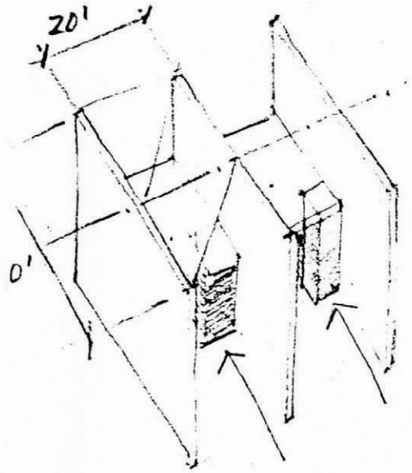
- Multiple vertical access
- 4 floors
- Organized around 4 entrance stairs which serve 2 apartments per floor
- 1, 2, 3 bedroom units face street on one side, other faces garden

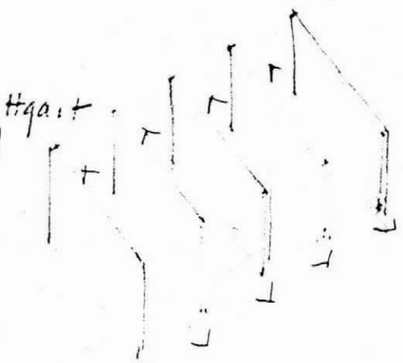


- Frame construction (& bearing)
- low-cost prototype - economical construction
- Standardization & prefabrication
- Access & mechanical in shaft core

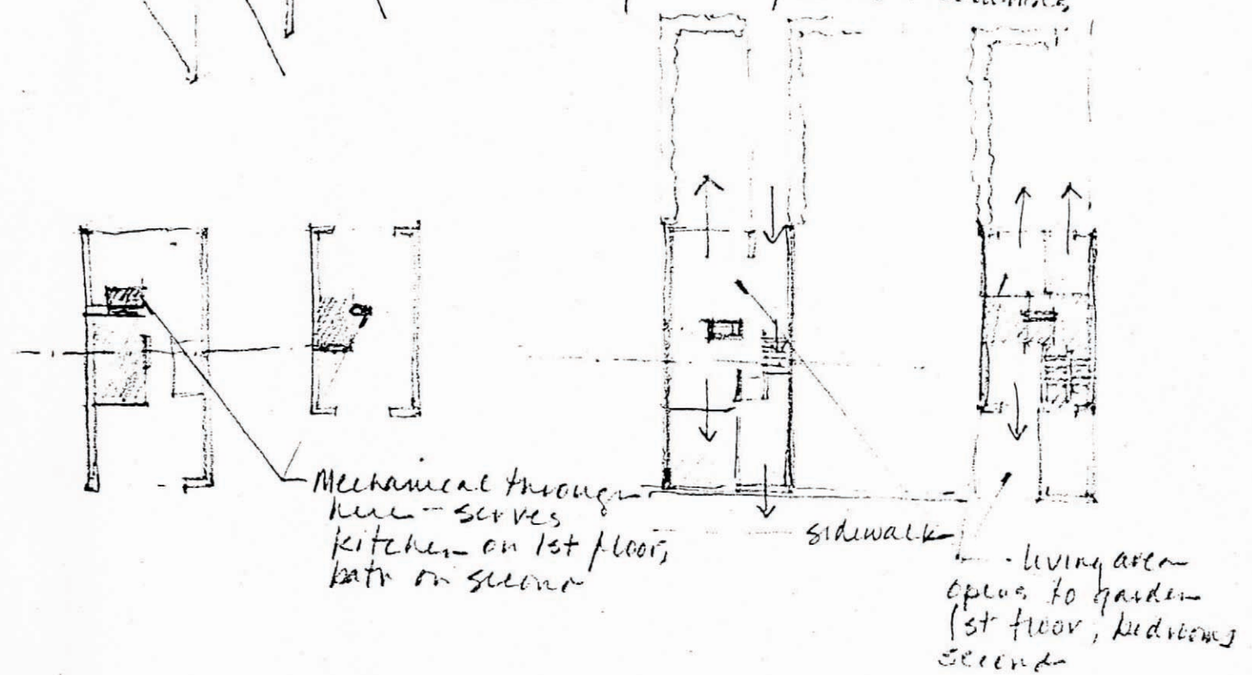
cont.

Weissenhof Exhibition - Stuttgart
J. J. P. Oud
1927





- Double orientation
- Private vertical access
- Masonry bearing walls & columns

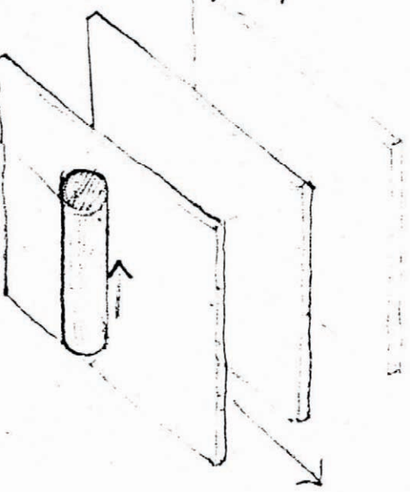


- single repeated type
- garden - private
- walled court faces street
- again important aspect of construction STANDARDIZATION & PREFABRICATION

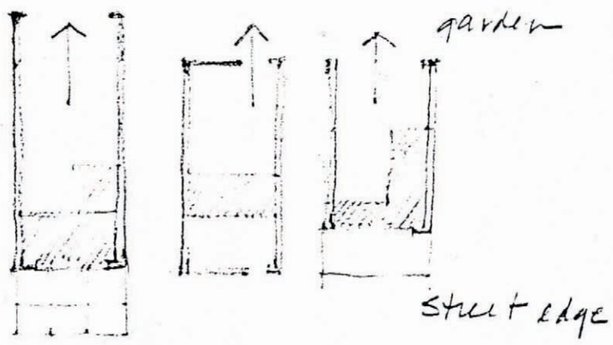
cont.

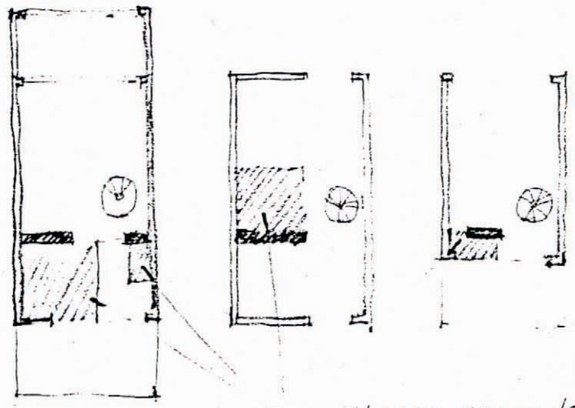
David's Plaza
Chicago, Illinois
Booth Nagle & Hartray

low rise - townhouse



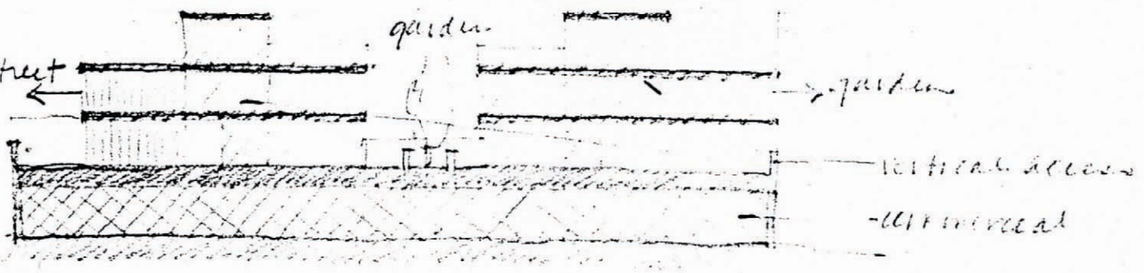
- double orientation - open ended
- private vertical access
- masonry (brick) bearing walls





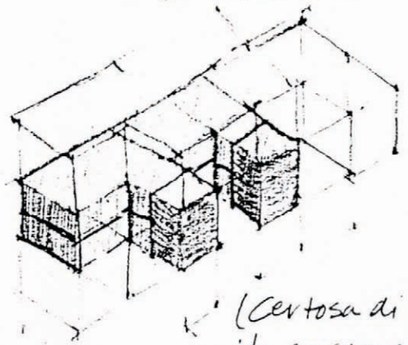
- while double orientation, open ended units, dense service areas generally on street side, larger, open, private spaces oriented towards garden

- chases serve kitchen & bath on 1st floor, baths on 2nd & 3rd



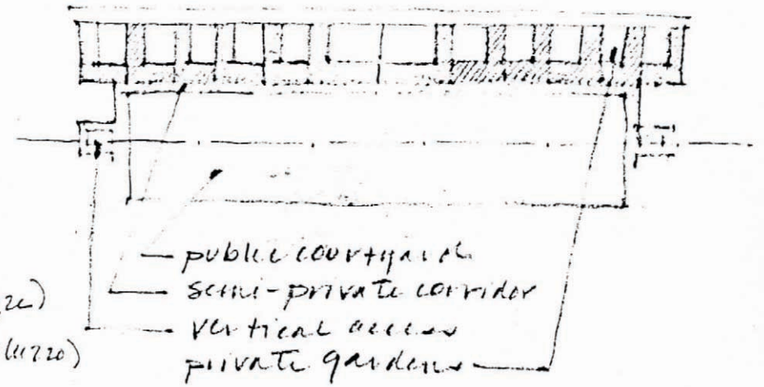
Block Housing

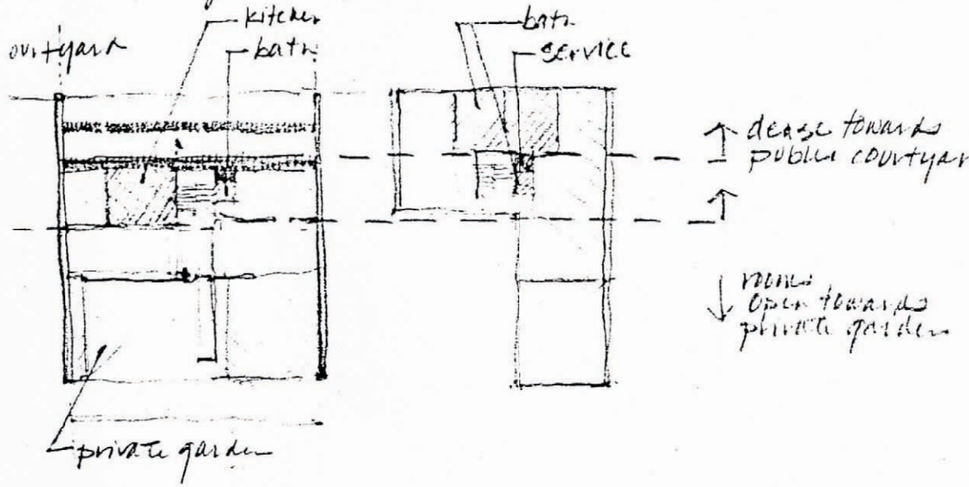
Immeuble Villas, Paris 1922-24
Le Corbusier

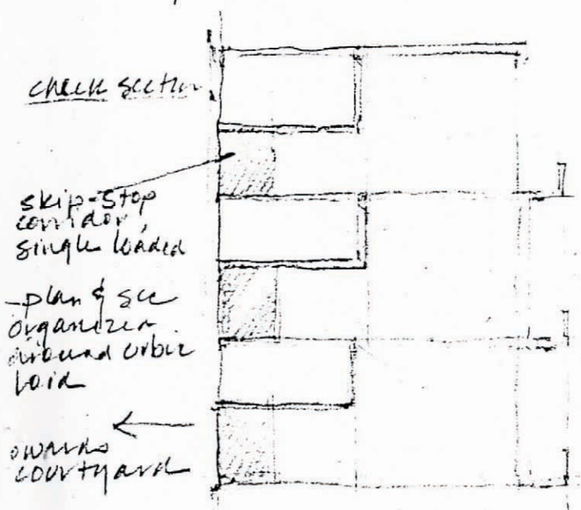


(Certosa di Firenze) Elna Galuzzo)

- L-shaped units arranged around cubic void
- Double height living space







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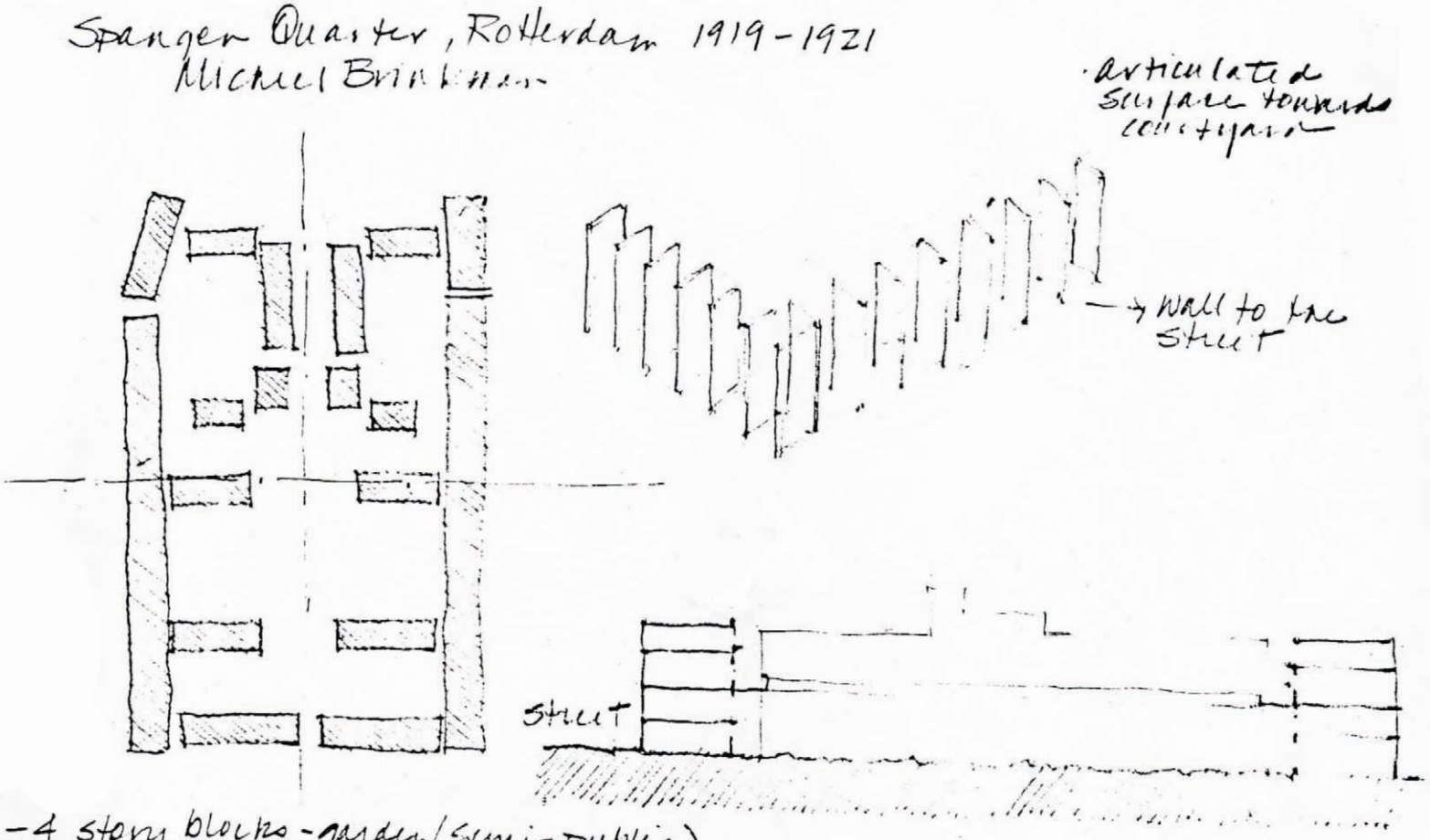
Spangen Quarter, Rotterdam 1919-1921
Michiel Brinkman



- 4 story blocks - garden (semi-public) within
- 470 x 260'
- elevated gallery access to upper units
- 3 bedroom units on 1st & 2nd floors & 3 bedroom duplexes above
- Access 1st & 2nd level from garden, 2nd from independent stairs.